AMSAT News Service Weekly Bulletins
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----- Original Message -----
From: "Lee" <ku4os@...>
To: <ans@...>
Sent: Sunday, April 27, 2003 06:52 PM
Subject: [ans] ANS-117 AMSAT Weekly Bulletin

AMSAT NEWS SERVICE
ANS-117

ANS is a free, weekly, news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

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SB SAT @ AMSAT $ANS-117.01
April 2003 AMSAT-NA President's Letter

AMSAT News Service Bulletin 117.01 From AMSAT HQ
Silver Spring, MD. April 27, 2003
To All Radio Amateurs
BID: $ANS-117.01

Greetings to all AMSAT Members,

It is always a pleasure to write this monthly letter to you and to try and keep you informed and updated on the various aspects of AMSAT-NA.

Firstly let me comment on the status of Echo, our satellite that we hope will be launched later this year. Progress is good, and we hope to have the satellite under test during the late spring or early summer. Final testing prior to shipment will be carried out in our new facility at NASA's Goddard flight Center. I said "new facility" but in fact it is the same facility that we had many years ago when AMSAT first came into existence.
Your Executive Vice-president Rick Hambly and Astronaut Ron Parise worked together to reacquire this building, close to the visitors center at Goddard for AMSAT's use. Rick Hambly will be at the Dayton Hamvention as one of the speakers at the AMSAT Forum, he will be giving a detailed update on ECHO. Place Forum Room 1, Date Saturday May 17, Time 8.30 am.

The design concepts of the structure of Eagle have been completed and limited work is continuing based on our available income for this project. We have purchased the two Earth Sensors that were subject of a Financial Challenge, issued at Fort Worth and have designed the Can-Buss internal communication system for use in Eagle. The CAN-BUSS Boards will be first flown on P3E by AMSAT-DL and various other organizations are looking at

the AMSAT-NA design to determine if it would meet their requirements. This system will also be the subject of a paper at our Dayton Forum when Bdale Garbee will be presenting a paper on the topic.

Gould Smith will present a Satellite Beginners paper at Dayton.
Remember Saturday May 17 in Forum Room 1, 8.30 AM.
Dayton is an excellent time to renew your membership, and this year in addition to membership we will have some Premiums which are available to donors. These include the AMSAT Journal CD-ROMs, Instant track (Y2K compatible version) and a surprise premium to everyone who joins or renews their membership.

Also, please remember to book a seat for the AMSAT dinner at the AMBER ROSE restaurant on Friday evening. This is your event and I look forward to meeting each one of you during that weekend. To book your seat in advance let Martha at the Office know-(301-589-6062 or Martha@...) We do have limited accommodation.

Although I am tempted to spend a lot of time at the Flea Market, I will spend most of the weekend at the AMSAT booth - so do plan to meet me there!. I am delighted to confirm the AMSAT ECHO-LINK conference system is now operational. Once more Paul Williamson has made it happen; use Echo-link to discuss satellites, orbits, and to have a round table discussion. Thank You Paul.

Finally, AMSAT is about to hold our first Fund Raising of the Year, as we usually do in May, and while I appreciate that "times are tough" so they are also for the AMSAT building fund. We really do need to progress with Eagle and to provide all the promises that I have put forward, such as (Mode B) - your help is the main way to get there - some new ideas on fund raising will appear in the May /June Journal - Please read the Apogee View by Guest writer Bill Tynan - Chairman of the Board of Directors.

73,
Robin Haighton, VE3FRH,
President.

[ANS thanks Robin, VE3FRH, for the above information]

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SB SAT @ AMSAT $ANS-117.02
AMSAT-NA Space Symposium 2nd Call for Papers

AMSAT News Service Bulletin 117.02 From AMSAT HQ
Silver Spring, MD. April 27, 2003
To All Radio Amateurs
BID: $ANS-117.02

The 2003 AMSAT-NA Annual Symposium is scheduled for October 17-19, 2003 in Toronto, Ontario, Canada. This is the first call for papers to be presented at the 2003 Symposium.

Papers may be presented by the author during the Symposium or simply offered for inclusion in the Symposium Proceedings publication.

The subject matter should be of general interest to amateur radio operators involved in satellite communications. Suggested topics include:

+ operating techniques
+ antenna design and construction
+ space craft design and construction
+ current mission status

+ proposed satellite missions
+ telemetry acquisition and relay

A brief abstract of the proposed paper should be submitted as soon as possible. The final date for abstracts is June 15, 2003.Copy ready papers must be received no later than August 15, 2003.

Electronic submittal is preferred in MS WORD format. Please email your electronic submittals to Wayne Chandler at ve3whc@...

[ANS thanks Wayne, VE3WHC, for the above information]

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SB SAT @ AMSAT $ANS-117.03
AO-40 Update

AMSAT News Service Bulletin 117.03 From AMSAT HQ
Silver Spring, MD. April 27, 2003
To All Radio Amateurs
BID: $ANS-117.03

Stacy Mills, W4SM provides the latest information on AO-40 in this report.

"AO-40 is continuing to drift "downward" in ALON as predicted. This is making the squint/range combination less favorable for passband use. In addition, the solar angle is worsening and will shortly exceed 45 degs, limiting available power and warming the spacecraft considerably as the sun swings across the omni end of the spacecraft. The AO-40 passbands have been turned off as of MA=240 (23:50 UTC) on Saturday 4/19. They will remain off for about 4 weeks (or slightly less) until conditions improve. The beacon will remain ON during the whole orbit."

M QST AMSAT OSCAR-40 2003 Apr 19

ALON = 35 deg - 18.2 deg/week; ALAT = 20 degs
Orbit 1133 is last passband until ~mid-May. Beacon remains ON.

The AO-40 team would like your telemetry files!
Please "zip" compress your daily telemetry files and e-mail to:
ao40-archive@...

N QST AMSAT AO-40 SCHEDULE 2003-04-19

```
                    MA      010   240   244   010
                    ---------7-----5-----0-----7
 Orbit 1134 until   S2/K-Tx  |  S  |  S  |  S  |   S-beacon
 ~ mid-May:         MB       |  *  |  *  |  *  |     ON
 PASSBANDS OFF      RUDAK    |     |     |     |
                    V/U-Rx   |  U  |  U  |  V  |
                    Uplink   |     |     |     |
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[ANS thanks Stacy, W4SM, for the above information]

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SB SAT @ AMSAT $ANS-117.04
OSCAR-11 REPORT 15 April 2003

AMSAT News Service Bulletin 117.04 From AMSAT HQ
Silver Spring, MD. April 27, 2003
To All Radio Amateurs
BID: $ANS-117.04

During the period 21 March to 14 April 2003 the 145.826 MHz. beacon has been heard transmitting continuous ASCII telemetry from 30 March to 07 April. During this period good signals have been received. Telemetry transmissions are expected to resume around April 20 for about 8 - 9 days.

The internal temperatures have continued to fall, by about one degree C, with an up/down variation of half a degree. They are now 5.8 C, 3.8 and 10.0 C for battery, telemetry electronics, and command decoder respectively. The temperatures are expected to fall slowly as the solar eclipse times lengthen, reaching a minimum in the Summer, and then increase in the Autumn. The solar eclipse times should be shorter than last year,resulting in higher temperatures in 2003.

The battery voltage observed during daylight passes has decreased. Observations have varied between 13.2 and 13.8 volts, with an average value of 13.5 volts.

The attitude is now being controlled solely by the passive gravity boom gradient, and there is no control over spin rate. The continuous telemetry has enabled the spin period to be calculated from the X & Y magnetometer readings. The spin period has varied between 342 and 505 seconds. The attitude is normal.

Users of OSCAR-11 should note that the date in the telemetry is advanced by three days. The time is advanced by 18 minutes.

OSCAR-11 now operates in a default mode, controlled by the watch-dog timer. The satellite transmits continuous ASCII telemetry for about 8 - 9 days on 145.826 MHz., followed by about 10 - 12 days of silence. These times appear to be somewhat variable, and this regular sequence might be interrupted by ground control.

The mode-S beacon is ON continuously, even when the VHF beacon is OFF, nominally transmitting an unmodulated carrier on 2401.5 MHz. There is however a VERY low level of AFSK modulation, (now a constant 1200 Hz. audio tone), which has been detected on strong signals. Telemetry indicates that the beacon has partially failed, and is delivering half power. This beacon is a useful test source for those testing mode-S converters, as an alternative to OSCAR-40. However the signals are very weak, and there is a lot of Doppler. Users should also note that the polarization of OSCAR-11 is LHC. Even if you can't hear OSCAR-11, your equipment may still be OK for OSCAR-40. Any reports of reception on 2401.5 MHz. would be most welcome. Please e-mail g3cwv@....

The 435.025 MHz. beacon is normally OFF. It can only be heard on the very rare occasions when the satellite is being commanded by ground control, i.e.. within range of Guildford, UK. When the 435 beacon is transmitting, the 145 beacon is normally OFF. The data transmitted is mainly binary.

Listeners to OSCAR-11 may be interested in visiting my web site.

The web site contains details about using a soundcard for data capture, and also details about using hardware demodulators. There is software for capturing data, and decoding ASCII telemetry and WOD. There is an archive of raw data for analysis, which is continually being expanded, as new data is captured. Originally this was for WOD, but it is now being expanded to include ASCII telemetry. At the present time the telemetry is just for 2002, and 2001. I will add other years as time permits. In parallel there is a news archive which provides an overview of the state of the satellite, at the

times when the telemetry was captured.

If anyone out there can provide any data, particularly for the 1984 to 1993 years, this would be most appreciated. Please e-mail me with details. However please DO NOT SEND ANY FILES, before further discussion.

Also included are some audio files, examples of each type of data transmitted by OSCAR-11, each one plays for about ten seconds. There are also examples of mode-S reception. All the audio files are zipped, so that they can be played off-line. These should help listeners identify the various types of data, and give an indication of the signal quality required for successful decoding.

The URL is -

http://www.users.zetnet.co.uk/clivew/

If you place this bulletin on a terrestrial packet network, please use the bulletin identifier $BID:U2RPT84.CWV, to prevent duplication.

73 Clive G3CWV g3cwv@...

[ANS thanks Clive, G3CWV, for the above information]

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SB SAT @ AMSAT $ANS-117.05
Month long ARISS promotion by Halifax ARC

AMSAT News Service Bulletin 117.05 From AMSAT HQ
Silver Spring, MD. April 27, 2003
To All Radio Amateurs
BID: $ANS-117.05

Canadian Space Agency Astronaut Col. Chris Hadfield, VA3OOG, was on hand for the final day of a month long ARISS promotion sponsored by the Halifax Amateur Radio Club. The HARC members, who had worked so hard during the event, were delighted to have Col. Hadfield take the time to meet with them and discuss the importance of the ARISS program. While the benefit of the Educational Outreach Program to students in classrooms around the world is clear, ARISS also plays a significant and "very real" psychological role to "on orbit" crews during long duration missions.

Col. Hadfield's visit topped off a very successful month of ARISS promotion. We were simply overwhelmed by the response from educators, as over 40 have signed up for additional program information. The Halifax Amateur Radio Club's offer to assist educators in developing and integrating classroom presentations, dealing with radio communications (both terrestrial and space), was met with enthusiasm. It's expected that we should have these workshops in place for the coming fall session. In the mean time, we look forward to assisting with ARISS school applications.

Sharing the excitement of ARISS with people has been fun! It may have been, in part, due to the venue that we had at the Empire 18 Cinemas and that "Space Station 3-D" was being shown in their IMAX facility. People were genuinely excited about what they had seen on the "big screen" and it was a real pleasure to discuss ARISS and Amateur Radio with them. The conservative estimate of the numbers of people that passed our display over the 4-week period was in excess of 50 thousand! Great for the ARISS Program and Amateur Radio!

Well done to all and thanks once again!

[ANS thanks Wayne, VE1WPH, for the above information]

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SB SAT @ AMSAT $ANS-117.06
Upcoming ARISS Contact Schedule

AMSAT News Service Bulletin 117.06 From AMSAT HQ
Silver Spring, MD. April 27, 2003
To All Radio Amateurs
BID: $ANS-117.06

Upcoming ARISS Contact Schedule as of 2003-04-23 04:00 UTC

The ARISS (a joint effort of AMSAT, the ARRL, NASA, the ARISS international partners including Canada, Russia, the European Partners, and Japan) operations team wishes to announce the following very tentative schedule for ARISS school contacts. This schedule is very fluid and may change at the last minute. Remember that amateur radio use on the ISS is considered secondary. Please check the various AMSAT and ARISS webpages for the latest announcements. Changes from the last announcement are noted with (***). Also, please check MSNBC.com for possible live retransmissions (http://www.msnbc.com/m/lv/default.asp). Listen for the ISS on the downlink of 145.80 MHz.

For information about educational materials available from ISS partner space Agencies, please refer to links on the ARISS Frequently Asked Questions page.

If you are interested in supporting an ARISS contact, then you must fill in an application. The ARISS operations mentor team will not accept a direct request to support an ARISS contact.

You should also note that many schools think that they can request a specific date and time. It does not work that way. Once an application has been accepted, the ARISS mentors will work with the school to determine a mutually agreeable date.

Websites that may be of interest include:

http://www.arrl.org/sarex
http://www.arrl.org/ariss
http://www.amsat.org
http://ariss.gsfc.nasa.gov
http://spacelink.nasa.gov/index.html
http://ehb2.gsfc.nasa.gov/edcats/educator_guide/

Your completely filled out application should be returned to the nearest coordinating ARISS region if your specific region is not listed. E-mail is the preferred method of submitting an application.

Here are the email addresses:
ARISS-Canada and all other countries not covered: ve2ka@... (Daniel Lamoureux VE2KA)
ARISS-Europe: jh.hahn@... (J. Hahn, DL3LUM / PA1MUC)
ARISS-Japan and all Region 3 countries: iaru-r3@... (Keigo Komuro JA1KAB)
ARISS-Russia: n2ww@... (Valerie Agabekov N2WW/UA6HZ)
ARISS-USA: ARISS@... (The American Radio Relay League)

ISS Expedition 6 crew:
Kenneth Bowersox KD5JBP
Nikolai Budarin RV3FB

Donald Pettit KD5MDT

ISS Expedition 7 crew: (***)
Ed Lu KC5WKJ (***)
Yuri Malenchenko RK3DUP (***)

Tver schools, Tver, Russia (***)
Contacts were successful. (***)
2003-04-16 10:30 UTC (***)
2003-04-16 12:06 UTC (***)
Congrats to Tver schools and Nikolai Budarin RV3FB (***)

Cowichan Secondary School, Duncan, BC, Canada, Direct via VE7POH
Contact was successful. Congrats to Cowichan and Don Pettit KD5MDT. (***)
Monday 2003-04-21 1815 UTC.

The latest ARISS announcement and successful school list is now available on the ARISS web site. Several ways to get there.

Latest ARISS announcements and news
http://www.amsat.org/amsat/ariss/news/arissnews.txt

Successful school list
http://www.amsat.org/amsat/ariss/news/Successful_ARISS_schools.rtf

or
http://ariss.gsfc.nasa.gov

If you can not get into the GSFC site, then go directly to the RAC site. (***)

click on English (sorry I don't know French)
you are now at http://www.rac.ca/ariss/
click on News

Currently the ARISS operations team has a list of over 60 schools that we hope will be able to have a contact during 2003.   As the schedule becomes more solidified, we will be letting everyone know. Current plans call for an average of one scheduled school contact per week.

[ANS thanks Charlie, AJ9N, for the above information]

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SB SAT @ AMSAT $ANS-117.07
PCSat Update

AMSAT News Service Bulletin 117.07 From AMSAT HQ
Silver Spring, MD. April 27, 2003
To All Radio Amateurs
BID: $ANS-117.07

Bob Bruinga, WB4APR, reports that, "PCsat is back to Eclipses but is holding fine and supporting about 50 users per 8 hour evening period (see pcsat.aprs.org)." Bob reports that he has cut the TXD in half from 30 to 15 and it seems to work fine for his receive set up while at the same time saving about 10% of transmit power.

If anyone notices any problems please let Bob know. He can be reached at WB4APR@.... He also notes, "Mid northern latitudes are seeing evening prime-time passes".

[ANS thanks Bob, WB4APR, for the above information]

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SB SAT @ AMSAT $ANS-117.08
This Week's News in Brief

AMSAT News Service Bulletin 117.08 From AMSAT HQ
Silver Spring, MD. April 27, 2003
To All Radio Amateurs
BID: $ANS-117.08

** The Westcott Wireless Preservation Association will be hosting special event station W8AGA on Saturday, May 3rd. The operation will take place from Frank Lloyd Wright's Westcott house in Springfield, Ohio.. --Newsline

** The first tube motherboard appeared last year in response to PC gamers who craved the allegedly "more natural" sound produced by vacuum tube technology. Those who have seen the boards call it a strange sight to behold. --Newsline

** Digital Radio Mondiale has announced that there will be an official launch at the World Radio Conference in Geneva, in June. Digital Radio Mondiale, better known by its initials D-R-M is the world's only non-proprietary, digital broadcasting system for short-wave, medium-wave and long-wave with the ability to use existing frequencies and bandwidth across the globe. --Newsline

** NASA on Friday, April 18, postponed to at least mid-August the launch of its new infrared space telescope designed to study objects that otherwise would be too dust-concealed, too cold or too distant to be detected by existing equipment.. --SpaceDaily

** The launch of NASA's Galaxy Evolution Explorer (GALEX) spacecraft aboard an Orbital Sciences Corporation (OSC) air-launched Pegasus vehicle is scheduled for deployment over the Atlantic Ocean from OSC's L-1011 carrier aircraft on Monday, April 28 at 8 a.m. EDT. This time is contained within a launch window that opens at 7:50 a.m. and closes at 9:50 a.m. DT. --SpaceDaily

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Thanks and 73,
This weeks ANS Editor:
Lee McLamb, ku4os@...

Via the ans mailing list at AMSAT.ORG courtesy of AMSAT-NA.
To unsubscribe, send "unsubscribe ans" to Majordomo@...